ARS-2021D/2021DS
Copy Smart Plus

DVD Standalone
DVD Link Host

User's Manual

Ver: 1.0

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Release: July 2002

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Chapter 1 Introduction

ARS-2021D and ARS-2021DS are different in use. The former one is simply a standalone device while the latter one can also be linked with a computer in addition to being standalone. Both of them are designed for copying DVD in video, audio or data form. Of course, they can be also used to copy CD.With ARS-2021D/2021DS any kind of copying will become easy and efficient. Professional mechanism design, multifunctional LCD and 4 simple buttons on the panel all make ARS-2021D/2021DS easy to operate and select a copying mode. For any end-user they are really cost-effective products.

1.1 Features

- ARS-2021D IDE to IDE Copy Controller.
- ARS-2021DS linking with PC.
- Built-in SCSIDE technology.
- 3 independent IDE channels.
- Power-on self test.
- Support internal 2.5" ATA66/100 HDD.
- User-friendly interface with messages on LCD panel.
- Fast copying on high-speed DVD writers, etc.
- Easy operation without installing software and extra training.
- Firmware update through DVD-ROM.

1.2 Specification

Power	Voltage: 5VB±5%
	Current: 0.5A Max
Environment	Operation: 0°C to 70°C

	Storage: -20°C to 85°C
Humidity	15% to 90%
Dimension	L 285 mm W 190 mm H 165 mm
Connector	2 40-pin internal IDE connectors 1 44-pin internal IDE connector 2 50-pin external SCSI connectors
Cable	ATA-66 (below 46 cm)
DVD	DVD-5 (SS/SL)*, DVD-9 (12SS/DL), DVD-10 (DS/SL),DVD-14 (DS/ML), DVD-18 (DS/SL), DVD-1 (SS/SL), DVD-2 (SS/DL), DVD-3 (DS/SL), DVD-4 (DS/DL), DVD-R 2.0 (SS/SL), DVD-RW 2.0 (SS/SL), DVD-RAM 2.0 (12cm, DS/L), DVD-RAM 2.0 (8cm, DS/SL), DVD-ROM (12cm, SS/SL), DVD-ROM (8cm, SS/SL) *SS/DS means single side/double side; SL/DL/ML means single layer/double layer/mixed layer

Supported DVD-ROM: LiteOn
Supported DVD writer: Panasonic, Pioneer, RICOH
Supported 2.5" ATA66/100 HDD

Please visit the website of ACARD to get the newest data.
http://www.acard.com

Chapter 2 Installation

Before installing ARS-2021D/2021DS, please note that there are two kinds of packages. One is a whole copying system, and the other is a system without DVD writer.

2.1 A Whole Copying System

- Unpack the package.
- Check if there is any defect or malfunction.
- Be sure that voltage is set correctly.
- HDD is optional.

2.2 A System without DVD Writer

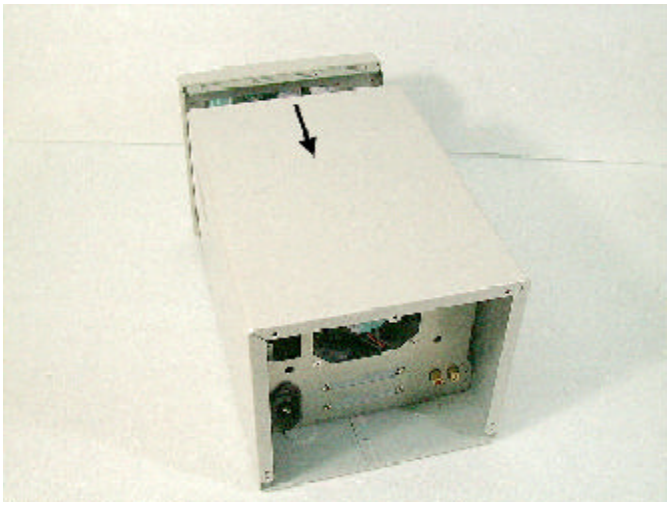
- Unpack the package.
- Check if there is any defect or malfunction.
- Prepare a suitable DVD writer according to the list given in subsection 1.2.
- Assemble the copying device according to your needs.
- Be sure that voltage is set correctly.

2.3 Before Installation

Before installation, two basic actions are shown as follows.

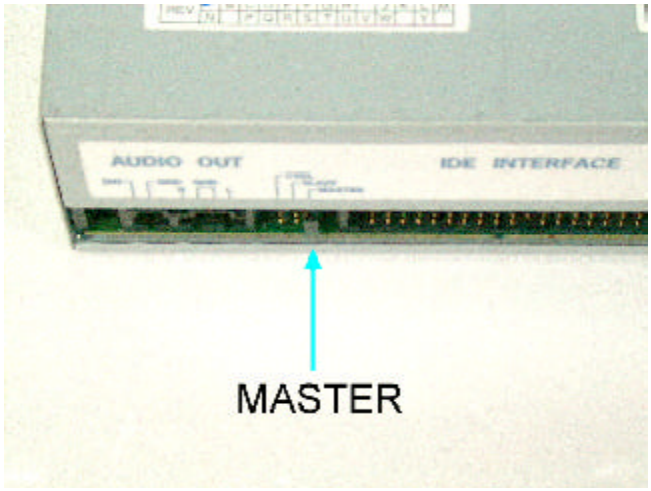
Step 1: Remove the rear cover of ARS-2021D/2021DS.

Step 2: Remove the outer shell of ARS-2021D/2021DS.



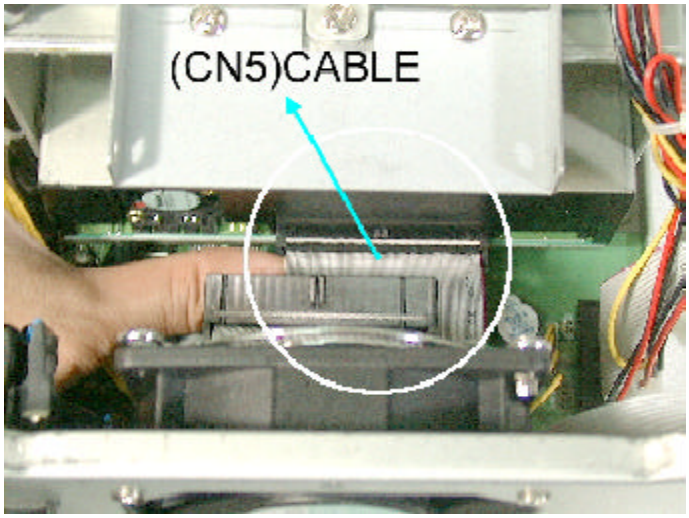
2.4 Installing a DVD Writer

Step 1: Adjust your DVD writer as master.

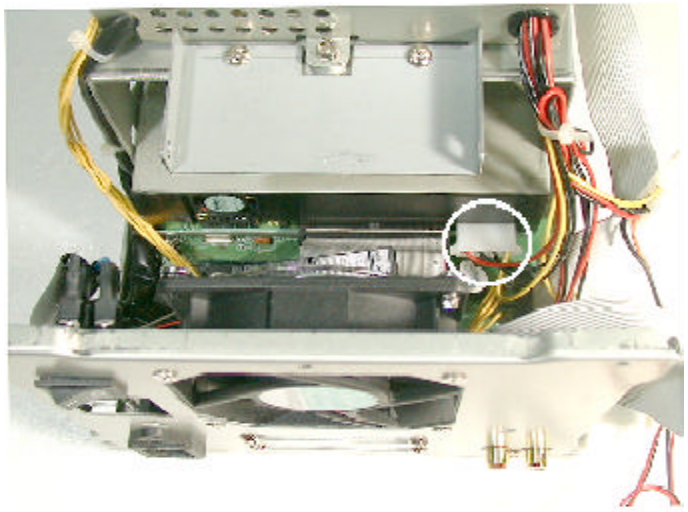


Step 2: Place the DVD writer onto the lower bay of ARS-2021D/2021DS.

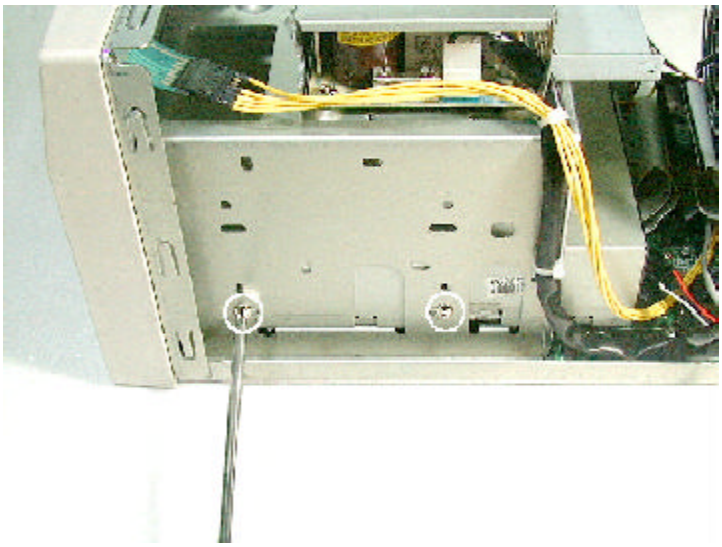
Step 3: Connect CN5 on the cable of ARS-2021D/2021DS to the 40-pin connector of DVD writer.



Step 4: Connect the connector on the power cord of ARS-2021D/2021DS to the 4-pin connector of DVD writer.

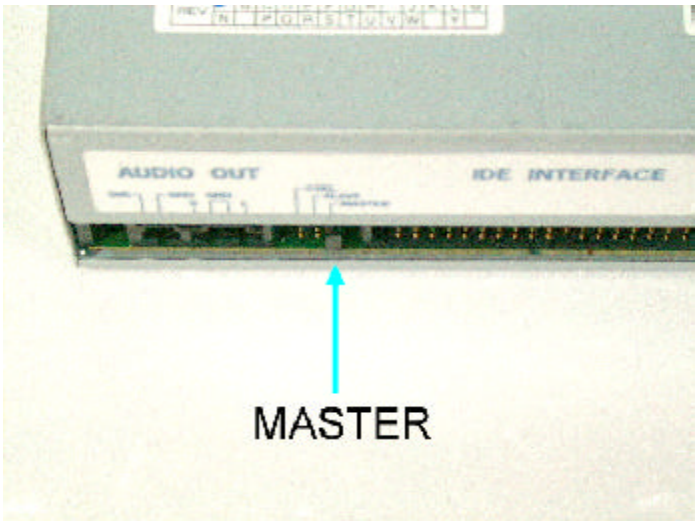


Step 5: Screw ARS-2021D/2021DS alongside.

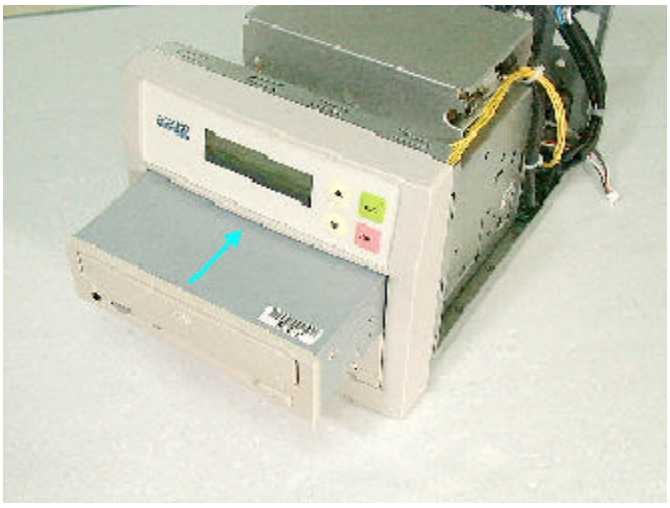


2.5 Installing a DVD-ROM

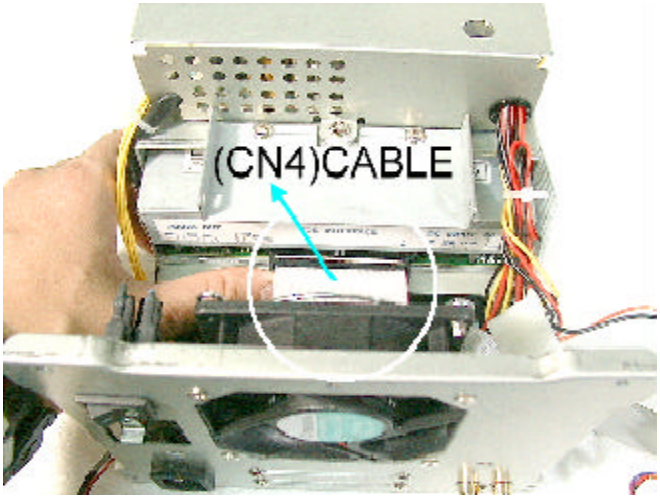
Step 1: Adjust your DVD-DOM as master.



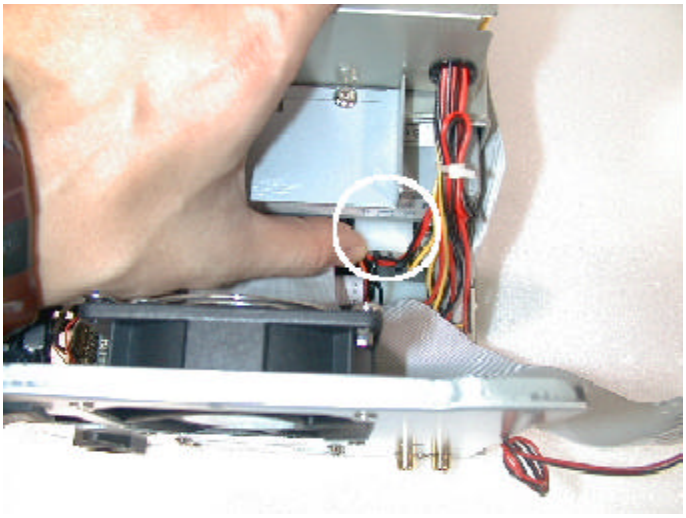
Step 2: Place the DVD-ROM onto the upper bay of ARS-2021D/2021DS.



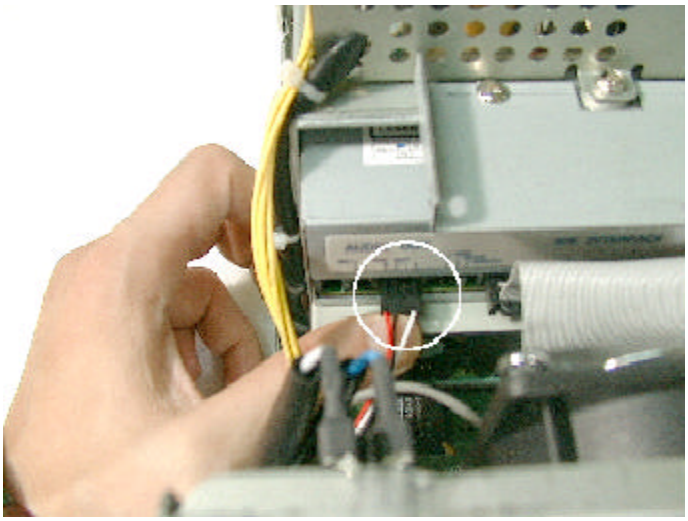
Step 3: Connect CN4 on the cable of ARS-2021D/2021DS to the 40-pin connector of DVD-ROM.



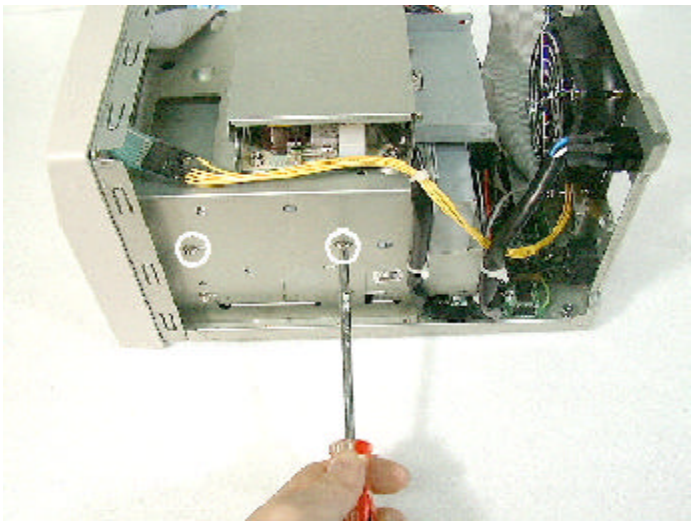
Step 4: Connect the connector on the power cord of ARS-2021D/2021DS to the 4-pin connector of DVD-ROM.



Step 5: Connect the audio cable to the audio port of DVD-ROM.

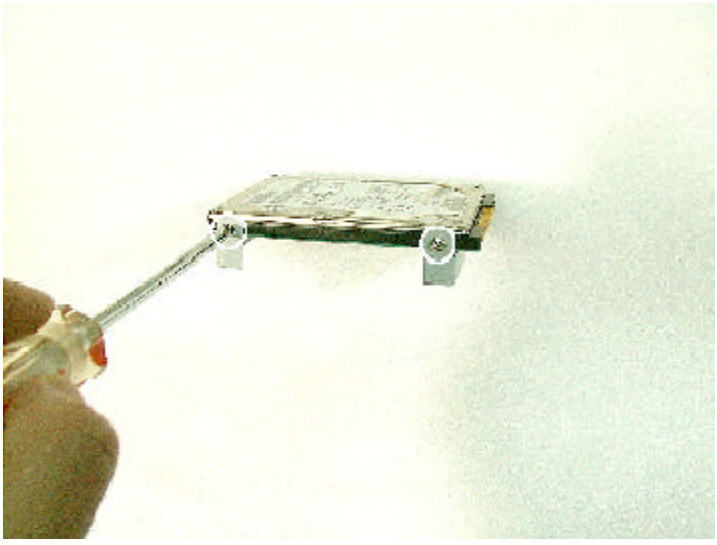


Step 6: Screw ARS-2021D/2021DS alongside.

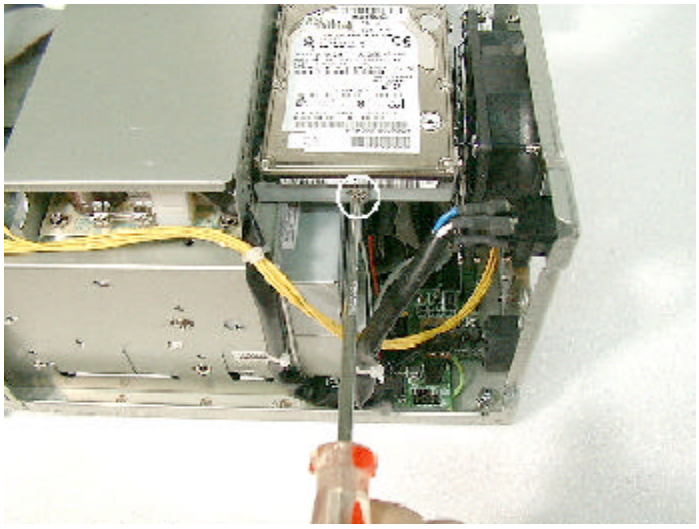


2.6 Installing a 2.5” HDD

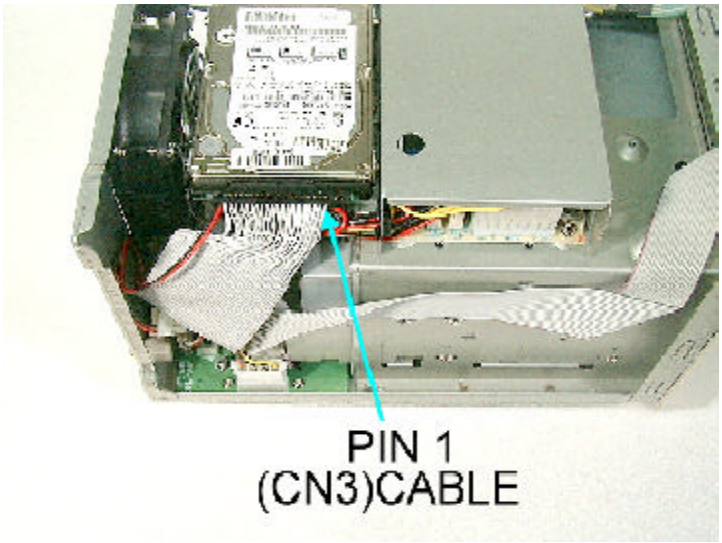
Step 1: Screw the 2.5” hard disk onto two pieces of iron.



Step 2: Screw the 2.5” hard disk with two pieces of iron onto the rack.



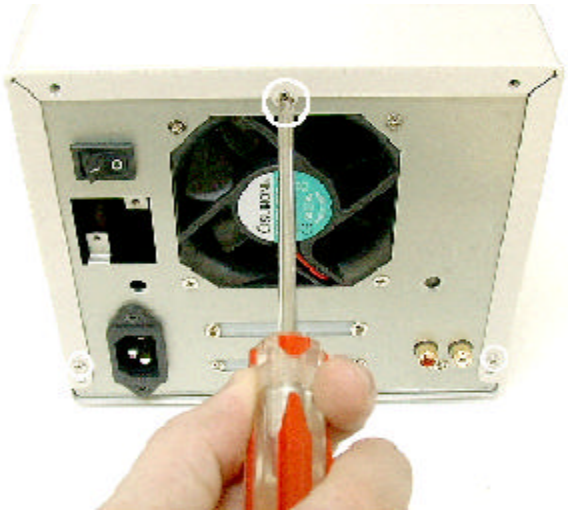
Step 3: Connect CN3 on the 44-pin cable to the connector of the hard disk.



2.7 After Installation

Step 1: Place the outer shell back.

Step 2: Screw it from back.



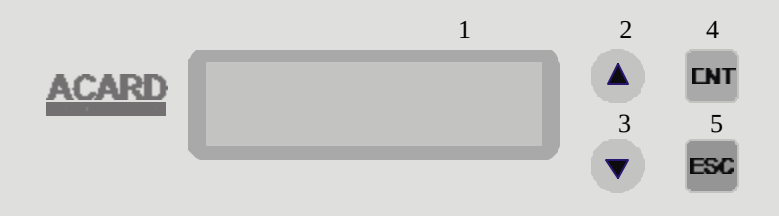
Step 3: Place the rear cover back and screw it.

Step 4: It is done.

Chapter 3 Basic Instructions

3.1 Buttons and LCD

There are four buttons and an LCD on the panel of ARS-2021D/2021DS. They are described as follows.



1. It shows all functions and messages.
2. It is used to scroll up through functions or menus.
3. It is used to scroll down through functions or menus.
4. It is used to execute a selected function.
5. It is used to cancel a selected function.

After powering on, and ARS-2021D/2021DS detects installed hardware like DVD-ROM, DVD writer, it will execute a self-test for seconds. When the self-test finishes, LCD will show the messages as follows.

1.

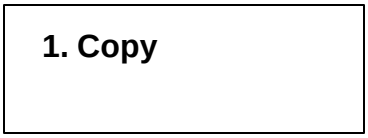
DVD Duplicator
1-1 ver: 1.54L

2.

Initialize SDRAM

3.

4.



There are 12 functions for you to use. Function 1 is Copy. You can press ▼ to see other functions.

3.2 About HDD Installation

In subsection 2.6 we illustrated how to install a 2.5" hard disk to ARS-2021D/ 2021DS. It is not necessary, but with a 2.5" hard disk you can use and enjoy the function of Image. In other words, you have one more choice to reproduce a DVD from an image file storing in the hard disk. In subsection 3.2.1 and 3.2.2 we are going to describe the differences of installing a 2.5" hard disk and not installing.

3.2.1 With a HDD

If you install a 2.5" hard disk to your ARS-2021D/2021DS, the operation procedures will be as follows.

- Once ARS-2021D/2021DS detects the hard disk, it will ask if you want to format or not. A 10GB hard disk can be divided into 2 partitions. Each partition has 5GB capacity.
- Use function 8 Select Source to set the hard disk as the source.
- In function 9 Image select a partition to store the data.
- If there is no data in a selected partition, place a source DVD into DVD-ROM and use function 9-01 Load to transmit data from DVD into the selected partition by pressing **ENT**. Different data can be stored in different partitions.

- Switch to function 1 Copy by pressing ▲ . Place a blank DVD disk into the DVD writer, and press **ENT** to start copying.
- When copying comes to an end, the passed DVD will eject automatically. The default is eject automatically, but you can change it.
- The failed DVD will remain in the writer. The default is keeping a failed DVD in the writer, but you can change it. To take the failed DVD you need to press the button on the writer.
- During operation do not press any button on ARS-2021D/2021DS, because interruption will harm the device, and DVD will be damaged.

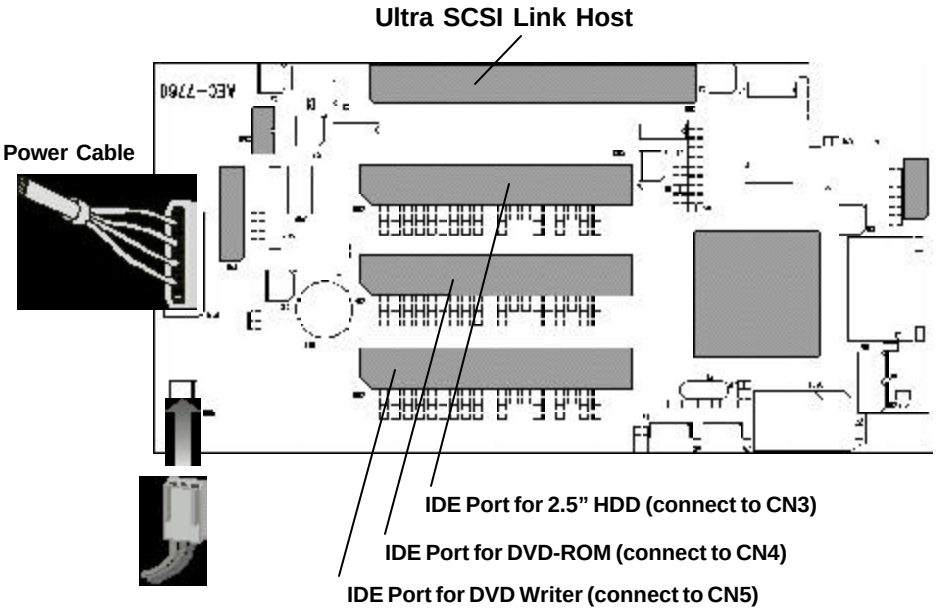
3.2.2 Without a HDD

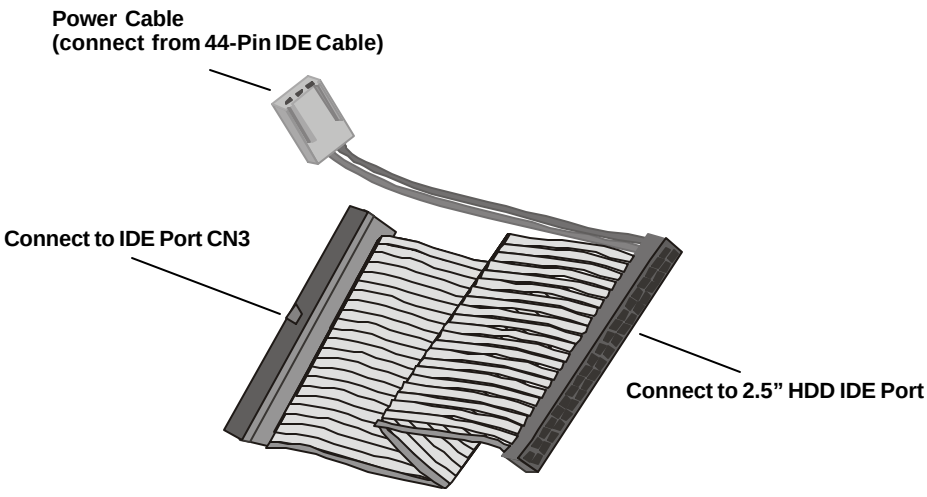
If you don't install a 2.5" hard disk to your ARS-2021D/2021DS, the operation procedures will be as follows.

- Place a source DVD into DVD-ROM.
- Switch to function 1 Copy by pressing ▲ . Place a blank DVD disk into the DVD writer, and press **ENT** to start copying.
- When copying comes to an end, the passed DVD will eject automatically. The default is eject automatically, but you can change it.
- The failed DVD will remain in the writer. The default is keeping a failed DVD in the writer, but you can change it. To take the failed DVD you need to press the "eject" button on the writer.

Chapter 4 Board Layout

The board layout of ARS-2021D/2021DS is shown as follows.


Ultra SCSI Link Host
Power Cable
IDE Port for 2.5" HDD (connect to CN3)
IDE Port for DVD-ROM (connect to CN4)
IDE Port for DVD Writer (connect to CN5)



A 44-Pin IDE Cable with Power Connector

Chapter 5 Link Host

5.1 Connection

There are two important steps to follow in connecting ARS-2021DS to a computer.

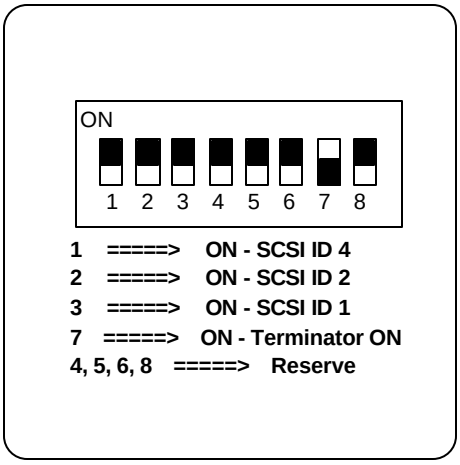
- Be sure that your computer is installed with a SCSI host adapter, and the adapter is LUN enabled.
- Connect ARS-2021DS to the SCSI host adapter with a SCSI cable.

5.2 Configuration

There are two steps to configure ARS-2021DS.

- Choose a unique SCSI ID for ARS-2021DS. Don't use the same ID which has been assigned to another SCSI device on the same SCSI bus repeatedly.
- Set SCSI termination ON if ARS-2021DS is the last device on the SCSI bus, but set OFF if it isn't.

Assign SCSI ID



DIP switch adjustment

5.3 Hardware Requirements

Hardware requirements include CPU, HDD and Interface.

1. CPU: Pentium-100/RAM: 32MB
2. HDD: 75MB or above
3. Interface: Ultra SCSI host adapter installed

5.4 Software Requirements

Software requirements include OS and Utilities.

1. OS: Windows 95/98/ME/XP, or Winsows NT/2000
2. Utilities: Ha! CD Burner (+DVD)

Chapter 6 Functions

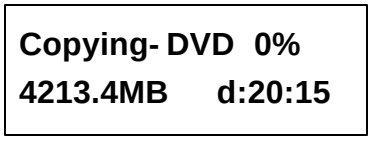
There are 12 functions: Copy, Test, Test & Copy, Verify, Compare, Prescan, Disc Info, Select Source, Image, Edit Track, Setup and Advanced Setup. Among the 12 functions, Edit Track is designed exclusively for editing a collection of favorite songs from CDs. During operation if you do not understand an LCD message, you can see Appendix 2.

6.1 Copy

Function 1 Copy is to copy data from a source DVD directly into a blank DVD disk. Before copying be sure that the source DVD is placed onto DVD-ROM, or there are data in a certain HDD partition if you have installed a hard disk. If you are not so sure of real copying, you can use Function 2 Test to simulate first.

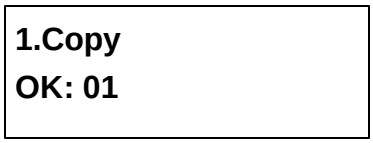
Select function 1. Put a source DVD onto DVD-ROM and a blank DVD disk onto the DVD writer. A DVD rewriteable disk containing old data is usable, too.

After the DVD-ROM and DVD writer detect DVDs, press **ENT** to start copying. LCD will show the copying information as follows.



When copying is in progress, MB and time will decrease whereas the percentage of completion increase.

When copying comes to an end, LCD will show the results as follows. The passed DVD will eject automatically.

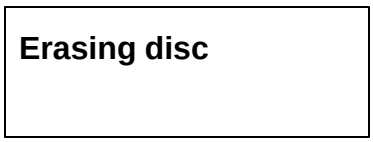


6.2 Test

Function 2 Test is to simulate the copying progress. When simulation finishes, there will be no data really written into the DVD disk.

Select function 2. Put a source DVD onto DVD-ROM and a blank DVD disk onto the DVD writer.

Press **ENT** to start simulation. If you use a DVD rewriteable disk that contains data, the old data will be quickly erased before simulation as shown below.



LCD will show the testing information as follows.

Testing- DVD 0%
4213.4MB d:20:15

When the test comes to an end, LCD will show the results as follows.

2.Test
OK: 01

Stopping the test halfway does not affect the DVD disk, but if the DVD rewriteable disk contains important data, they may be destroyed.

6.3 Test & Copy

Function 3 Test & Copy is to test first and then copy actually.

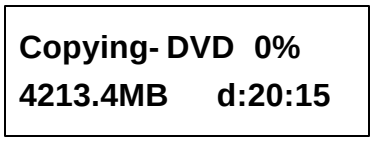
Select function 3. Put a source DVD onto DVD-ROM and a blank DVD disk onto the DVD writer.

3.Test & Copy

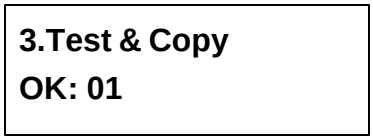
Press **ENT** to start simulation. LCD will show the testing information as follows.

Testing- DVD 0%
4213.4MB d:20:15

When the test finishes, actual copying will begin as shown below.



When the whole process finishes, LCD will show the results as follows.

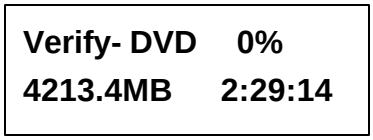


6.4 Verify

Function 4 Verify is to examine if the target DVD can be read correctly after copying.

Select function 4.

Press **ENT** to verify. LCD will show the verification information as follows.



When verification comes to an end, LCD will show the results as follows.

4.Verify
OK: 01

6.5 Compare

Function 5 Compare is to make a comparison between the source DVD and the target DVD after copying.

Select function 5. Put the source DVD onto DVD-ROM and the target DVD onto DVD writer.

5.Compare

Press **ENT** to compare.LCD will show the comparison information as follows.

Compare- DVD 0%
4213.4MB 1:05:06

When comparison comes to an end, LCD will show the results as follows.

Compare	**OK: 1**
Fail: 0	**Diff: 0**

Press **ENT** to see the details of source 1 as shown below.

Src: 01 DVD-ROM
Total: 4213.4MB

Press **ENT** to see the details of source 2. If the comparison is identical, LCD will show the message as follows.

Src: 02 DVD-RW
Identical

If comparison fails, LCD will show the failure. By pressing **ENT** twice, LCD will show that the contents of source 1 and those of source 2 do not match as follows.

Src: 02 DVD-RW
TOC not match

6.6 Prescan

Function 6 Prescan is to scan if the source DVD can be read correctly, and by the way to test the reading speed.

Select function 6. Put the source DVD onto DVD-ROM.

6.Prescan

Press **ENT** to prescan. LCD will show the scanning information as follows.

Scaning- DVD 0%
4213.4MB 40:40

When scanning finishes, and the source DVD can be read correctly, LCD will show the results as follows.

PreScan OK!

6.7 Disc Info

Function 7 Disc Info is to show the basic information of source DVD.

Select function 7. Put the source DVD onto DVD-ROM.

7.Disc Info

Press **ENT**, and LCD will show the DVD information as follows.

Disc Type: DVD-ROM
Capacity: 4213.4MB

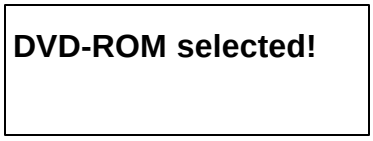
6.8 Select Source

Function 8 Select Source is to let you select the data on DVD-ROM, DVD writer or HDD as the source from which copying will be done.

Select function 8.

Press **ENT**, and then press ▲▼ to select the source as shown below.

After selecting the source such as DVD-ROM, you can press **ENT**, and LCD will show the message as follows.

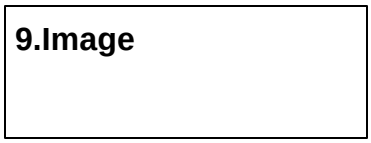


Suppose you select HDD as the source and try to copy from one of its partitions, but the partition contains no data, an error message will appear on LCD. At this moment, you can switch to another partition that contains data, or use function 9 Image to load the data into the chosen partition first.

6.9 Image

Function 9 Image is valid only when you have installed a hard disk. This function includes 6 parts. They are Load, Delete Image, Image Info, Compare Image, Select Partition and Select Src Drive. The loaded data is called an image file.

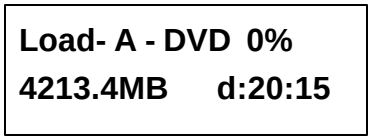
Select function 9.



6.9.1 Load

On the above figure press **ENT**, and you will enter the following figure. Here the function Load is to let you load data from DVD-ROM or DVD writer into the current partition of the hard disk. P:A means partition A.

Press **ENT** to load. LCD will show the loading information as follows.



After the image file is successfully loaded, LCD will show the results as follows.

Image load OK

If there is an image file existing in the current partition, the system will ask you whether to overwrite it or not. Please use ▲ ▼ to confirm Yes or No.

Image Exists Overwrite?Yes

6.9.2 Delete Image

If you want to empty an image file stored in a particular partition, you can use the function Delete Image to do so. First, select the function by pressing ▼.

9-02. Image P: A Delete Image

The system will ask if you are sure to delete. Use ▲ ▼ to confirm Yes or No.

Delete Image in Partition A?Yes

After the image file is deleted, LCD will show the results as follows.

Partition A: **Image is deleted**

6.9.3 Image Info

This function is to show the basic information of an image file stored in a particular partition. First, select the function by pressing ▼.

9-03.Image P: A **Image Info**

Press **ENT**, and LCD will show the information of the image file as follows.

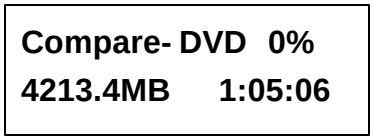
Disc Type: DVD-ROM **Capacity: 4213.4MB**

6.9.4 Compare Image

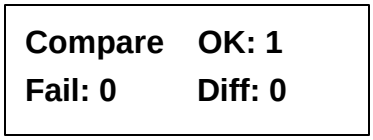
This function is to compare the contents of the source DVD and those of the image file in the partition. First, select the function by pressing ▼.

9-04. Image P: A **Compare Image**

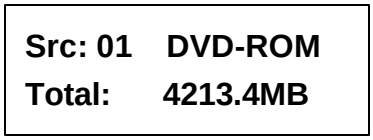
Press **ENT**, and LCD will show the comparison information as follows.



When comparison comes to an end, LCD will show the results as follows.

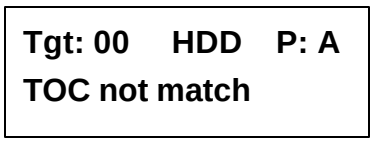


Press **ENT** to see the details of source 1 as shown below.



Press **ENT** to see the details of source 2. If the comparison is identical, LCD will show the message as follows.

If comparison fails, LCD will show the failure. By pressing **ENT** twice, LCD will show that the contents of source 1 and those of source 0 do not match as follows.



6.9.5 Select Partition

This function is to select a partition in the hard disk. First, select the function by pressing ▼.

9-05.Image P: A **Select Partition**

After installing a hard disk, ARS-2021D/2021DS will format it automatically. Each partition will occupy 5GB. The number of partitions is dependent on the hard disk's capacity. The partitions is alphabetically arranged. Now select a working partition by pressing ▲ ▼ , and LCD will show the message as follows.

Select Working **Partition - A**

After the partition is selected, LCD will show the results as follows.

Set Partition to **A**

6.9.6 Select Src Drive

This function is to select DVD-ROM or DVD writer as the source from which you can load data into a particular partition as an image file.

First, select the function by pressing ▼.

9-06. Image P: A
Image Src Drive

Then, use ▲▼ to select DVD-ROM or DVD writer as the source.

Select Img Src:
01 IDE1 DVD-ROM

After selecting the source such as DVD-ROM, you can press **ENT**, and LCD will show the message as follows.

Load image from
Drive ID-01

6.10 Edit Track (for CD only)

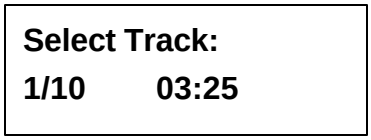
Function 10 Edit Track is exclusively designed for editing a collection of favorite songs from CDs. In other words, it can collect different tracks (songs) on a number of CDs and merge them into a single CD. This function includes 4 parts. They are CD to CD, CD to HDD, Play Audio Track and Close Session.

Select function 10.

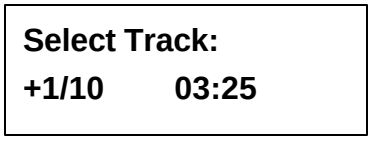
6.10.1 CD to CD

On the above figure press **ENT**, and you will enter the following figure.Here the function CD to CD is to let you select a track or more from CD-ROM, and then copy into a blank CD-R/RW.

On the above figure press **ENT**, and you will enter the following figure. Here 1/10 means the number one of the 10 tracks, and 03:25 means the playing time.

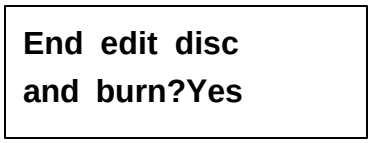


You can press ▼ to see the second track and so on. Suppose we decide to select the first track, then press **ENT**. A "+" will appear beside 1/10 as shown below. But pressing **ENT** again may cancel the selection.

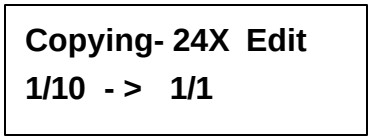


After selecting, please use ▲ to move to the "End" menu as shown below.

Press **ENT** to finish the CD editing, and use ▲ ▼ to confirm Yes or No.

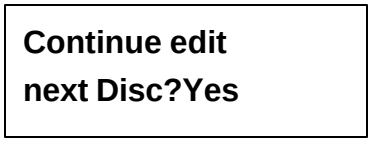


LCD will show the copying information as follows.

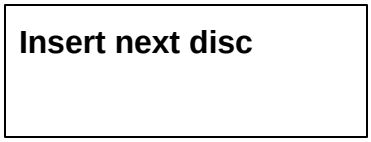


On the above figure 1/1 means the first track of all tracks we have selected, and here we have just selected one track. When copying comes to an end, LCD will show the message as follows.

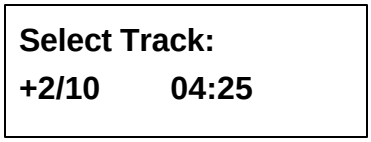
The system will ask if you want to keep editing. Please use ▲▼ to confirm Yes or No. as shown below.



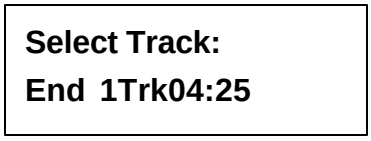
If you want to keep editing, the current source CD will eject auctomatically, and the system will ask you to insert another new CD as shown below.



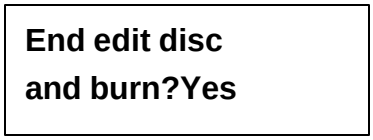
After inserting the new CD, press **ENT** to edit as before. Suppose we decide to select the second track, then press **ENT**. A "+" will appear beside 2/10 as shown below.



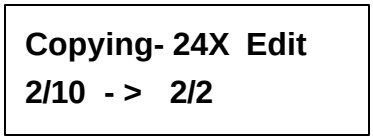
After selecting, please use ▲ to move to the "End" menu as shown below.



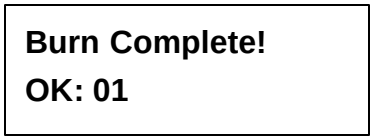
Press **ENT** to finish the CD editing, and use ▲ ▼ to confirm Yes or No.



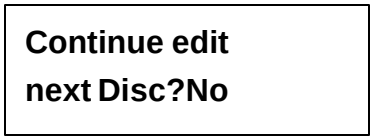
LCD will show the copying information as follows.



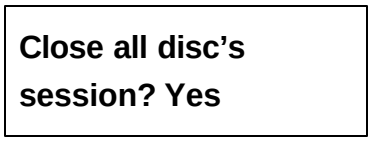
On the above figure 2/2 means the second track of all tracks we have selected, and so far we have selected two tracks from two different CDs. When copying comes to an end, LCD will show the message as follows.



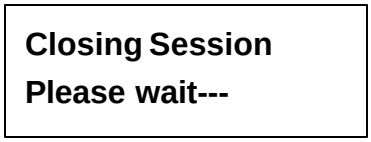
The system will ask if you want to keep editing. Suppose we don't like to continue, then press ▼ to confirm No.



On the above figure Press **ENT**. The system will ask if you want to close all CDs' sessions. Please use ▲ ▼ to confirm Yes or No as shown below.



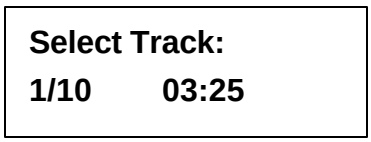
After deciding to close, LCD will show the message as follows.



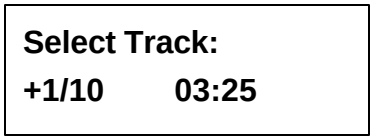
6.10.2 CD to HDD

After closing sessions, press **ESC** and ▼ to enter the following figure.Here the function CD to HDD is to let you select a track or more from CD-ROM, and then copy into a certain partition of HDD.

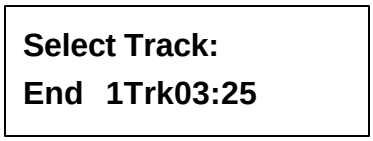
On the above figure press **ENT**, and you will enter the following figure. Here 1/10 means the number one of the 10 tracks, and 03:25 means the playing time.



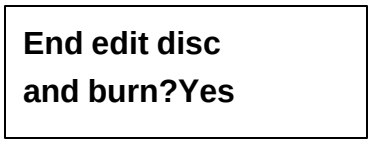
Suppose we decide to select the first track, then press **ENT**. A "+" will appear beside 1/10 as shown below. But pressing **ENT** again may cancel the selection.



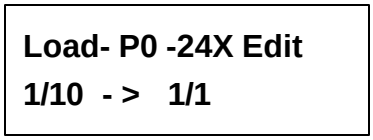
After selecting, please use ▲ to move to the "End" menu as shown below.



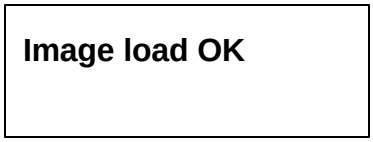
Press **ENT** to finish the CD editing, and use ▲ ▼ to confirm Yes or No.



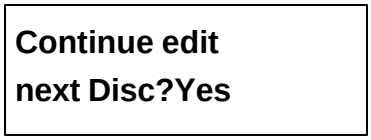
Then, the track as an image file will be loaded into HDD. LCD will show the loading information as follows.



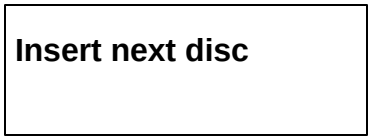
When loading comes to an end, LCD will show the message as follows.



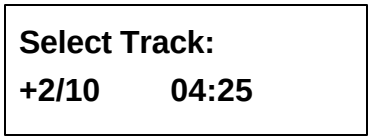
The system will ask if you want to keep editing. Please use ▲▼ to confirm Yes or No. as shown below.



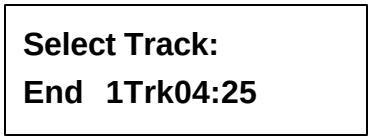
If you want to keep editing, the current source CD will eject auctomatically, and the system will ask you to insert another new CD as shown below.



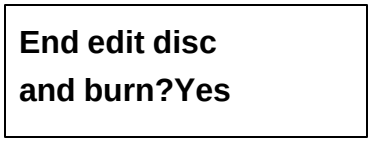
After inserting the new CD, press **ENT** to edit as before. Suppose we select the second track, then press **ENT**. A "+" will appear beside 2/10 as shown below.



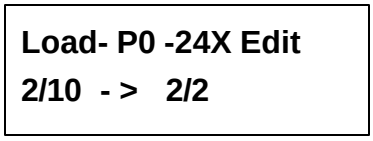
After selecting, please use ▲ to move to the "End" menu as shown below.



Press **ENT** to finish the CD editing, and use ▲▼ to confirm Yes or No.

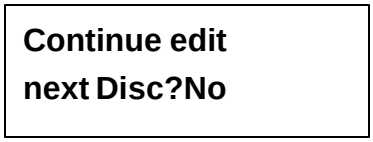


Then, the track as an image file will be loaded into HDD. LCD will show the loading information as follows.

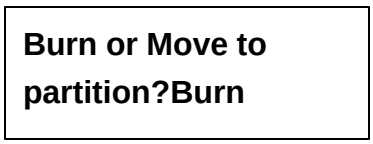


When loading comes to an end, LCD will show the message as follows.

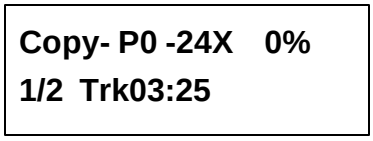
The system will ask if you want to keep editing. This time please use ▼ to confirm No as shown below.



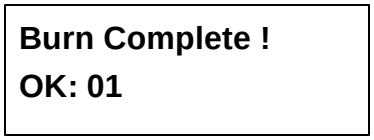
Then, the system will ask if you want to burn from HDD into CD-R/RW or move into a partition. Please use ▲ to confirm Burn as shown below.



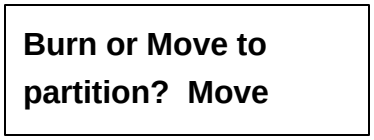
After pressing ▲ , LCD will show the copying information as follows.



When burning finishes, LCD will show the results as follows.

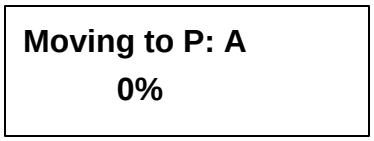


On the above figure press **ESC** to enter the following figure. Now press ▼ to move the data from HDD template into a certain partition.

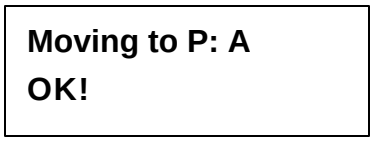


After pressing ▼, you need to select a partition into which the data will be moved. Suppose we select A as shown below.

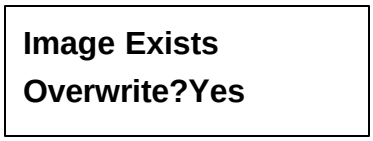
After pressing **ENT**, LCD will show the moving information as follows.



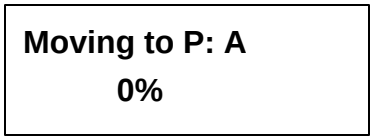
When moving finishes, LCD will show the results as follows.



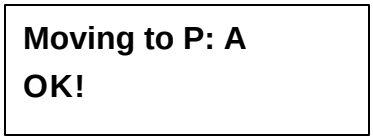
If the chosen partition has contained image data, the system will ask to overwrite or keep the data. Here please use ▲ to overwrite.



After pressing ▲ , LCD will show the moving information as follows.



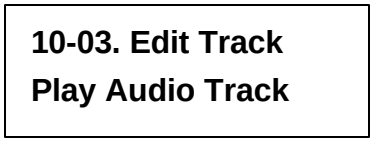
When moving finishes, LCD will show the results as follows.



6.10.3 Play Audio Track

This function is to make ARS-2021D/2021DS act as a music player. You can plug an AV terminal in the audio port on the back of the device, and enjoy the music.

On the above figure press **ESC** and ▼ to select the function.



Use ▲ ▼ to select the track you want to play.

Select Track:
1/10 03:25

After selecting and pressing **ENT**, LCD will show the playing information below.

Playing Track-1
00:00 / 03:25

6.10.4 Close Session

This function is to close a CD and let no data written into. After closing, you can put the CD on any normal player and listen.

On the above figure press **ESC** and ▼ to select the function.

10-04. Edit Track
Close Session

After pressing **ENT**, the system will ask if you are sure to close.

Close all disc's
session? Yes

After pressing **ENT**, LCD will show the message as follows.

Closing Session
Please wait---

When closing finishes, LCD will show the results as follows.

Closing Complete
OK :1 Fail :0

6.11 Setup

Function 11 Setup lets you change the default settings. Once you change a setting, remember to press **ENT** to save it. However, it is suggested to use the defaults for the optimal operation. This function includes 16 parts. They are Language, Burn Speed, Read Speed, Auto Start Drive, Startup Menu, Auto Verify, Auto Compare, Auto Prescan, Eject Disc, Burn On The Fly, Burn Mode, Button Sound, Device Info, System Info, Quick Erase and Full Erase.

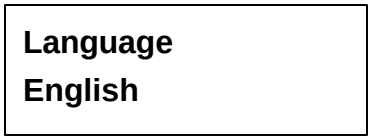
Select function 11.

11. Setup

6.11.1 Language

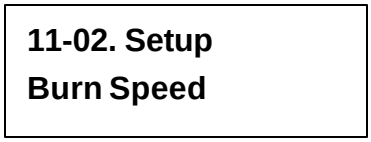
On the above figure press **ENT**, and you will enter the following figure. The function Language lets you select a language in which messages can be shown on LCD.

Press **ENT** to enter the following figure. Here LCD only supports English.

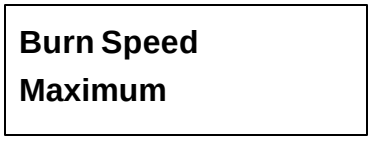


6.11.2 Burn Speed

On the above figure press **ESC** and ▼ to enter the following figure. The function Burn Speed lets you control the burning speed of DVD writer.

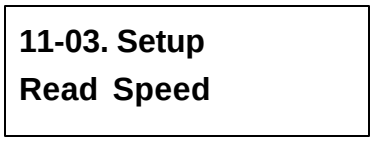


Press **ENT** to enter the following figure. The default is maximum, but there are still other choices: 8X, 4X, 2X and 1X.

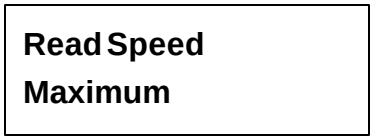


6.11.3 Read Speed

On the above figure press **ESC** and ▼ to enter the following figure. The function Read Speed lets you control the reading speed of target DVD.



Press **ENT** to enter the following figure. The default is maximum, but there are still other choices: 32X, 16X and 8X.



6.11.4 Auto Start Drive

On the above figure press **ESC** and ▼ to enter the following figure. Auto Start Drive is to copy or test automatically once you put a blank DVD onto the writer.

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select 1 (one blank DVD).

6.11.5 Startup Menu

On the above figure press **ESC** and ▼ to enter the following figure. Startup Menu lets you select any one of the functions except Adv Setup as the first item appearing on the menu whenever you turn on ARS-2021D/2021DS.

Press **ENT** to enter the following figure. The default is Copy. Of course you can select any other function as the first item, but remember to press **ENT**.

6.11.6 Auto Verify

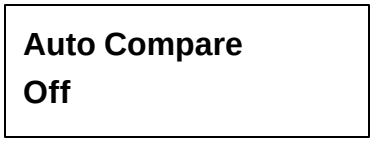
On the above figure press **ESC** and ▼ to enter the following figure. Auto Verify is to verify automatically if the target DVD can be read after copying.

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.

6.11.7 Auto Compare

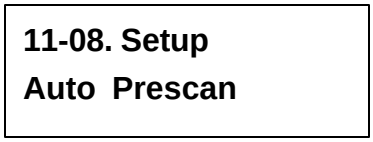
On the above figure press **ESC** and ▼ to enter the following figure. Auto Compare is to compare automatically the source DVD and the target DVD after copying.

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.

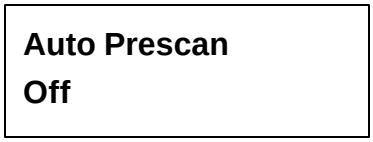


6.11.8 Auto Prescan

On the above figure press **ESC** and ▼ to enter the following figure. Auto Prescan is to scan automatically if the source DVD can be read correctly, and by the way to test the reading speed.



Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.



6.11.9 Eject Disc

On the above figure press **ESC** and ▼ to enter the following figure. Eject Disc provides three choices. They are Eject Good Only, Eject All Disc, and Do Not Eject. Eject Good Only means that the DVD will eject automatically only when it is copied successfully. Eject All Disc means that the DVD will eject automatically whether it is copied successfully or not. Do Not Eject means that you need to eject the DVD manually when copying finishes.

Press **ENT** to enter the following figure. The default is Eject Good Only. Press ▼ to select Eject All Disc or Do Not Eject.

6.11.10 Burn On The Fly

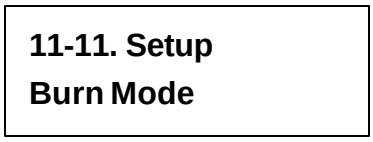
On the above figure press **ESC** and ▼ to enter the following figure. Burn On The Fly lets you control the copying methods. When the setting is On, the data will be copied directly from the source DVD to the target DVD. When the setting is Off, the data will be loaded into a partition of HDD first, and hence copying will be done.

Press **ENT** to enter the following figure. The default is On. Press ▼ to select Off.

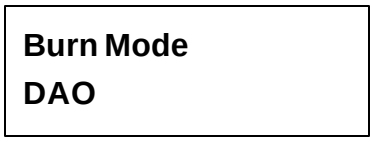
If ARS-2021D/2021DS doesn't connect with a hard disk, LCD will show the message as follows.

6.11.11 Burn Mode

On the above figure press **ESC** to return to Function 11, and then select part 11 Burn Mode as the following figure shows. Burn Mode lets you control the burning modes. There are two modes: DAO (Disc At Once) and TAO (Track At Once). They support CD only. If the DVD writer doesn't support the mode you have selected, ARS-2021D/2021DS will automatically switch to another mode.



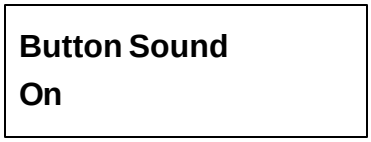
Press **ENT** to enter the next figure. The default is DAO. Press ▼ to select TAO.



6.11.12 Button Sound

On the above figure press **ESC** and ▼ to enter the following figure. Button Sound lets you control the sound of a button when you press it.

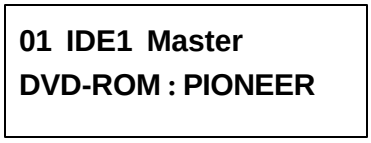
Press **ENT** to enter the next figure. The default is On. Press ▼ to select Off.



6.11.13 Device Info

On the above figure press **ESC** and ▼ to enter the following figure. Device Info shows the basic information of the DVD-ROM and DVD writer you have installed.

Press **ENT** to enter the next figure.



Press **ENT** to enter the next figure.

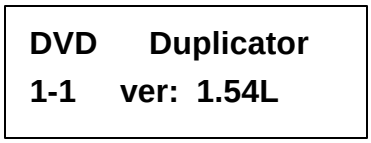
Press ▼ twice to enter the next figure.

Press **ENT** to enter the next figure.

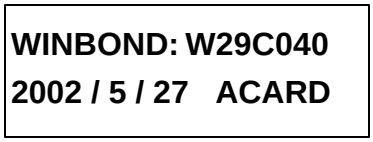
6.11.14 System Info

On the above figure press **ESC** and ▼ to enter the following figure. System Info shows the information of the system.

Press **ENT** to enter the next figure.

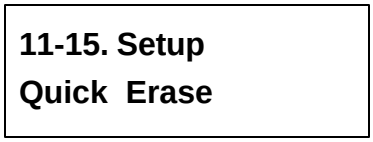


Press **ENT** to enter the next figure.

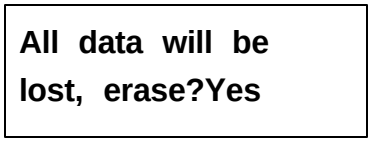


6.11.15 Quick Erase

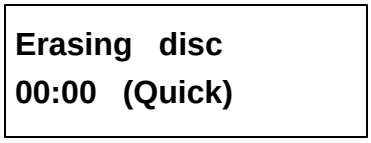
On the above figure press **ESC** and ▼ to enter the following figure. Quick Erase is to erase the data on the DVD rewriteable disk quickly.



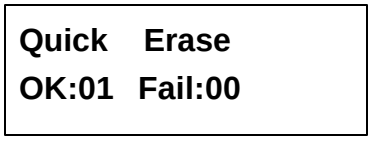
Press **ENT** to enter the next figure. Use ▲ ▼ to confirm Yes or No.



After confirming Yes and pressing **ENT**, LCD will show the message as follows.

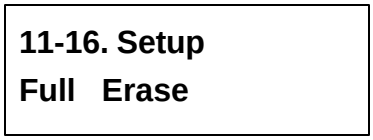


When erasing finishes, LCD will show the results as follows.

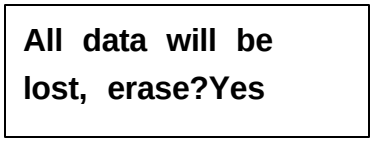


6.11.16 Full Erase

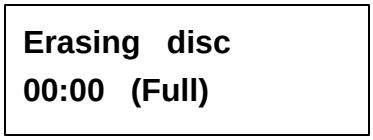
On the above figure press **ESC** and ▼ to enter the following figure. Full Erase is to erase the data on the DVD rewriteable disk completely. Compared with Quick Erase, Full Erase takes longer time to do the job.



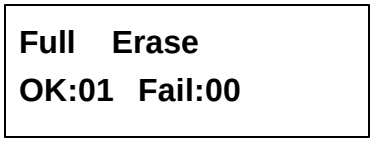
Press **ENT** to enter the next figure. Use ▲ ▼ to confirm Yes or No.



After confirming Yes and pressing **ENT**, LCD will show the message as follows.



When erasing finishes, LCD will show the results as follows.



6.12 Adv Setup

Function 12 Adv Setup lets you change the system configuration. This function includes 13 parts. They are UnderRun Protect, Overburn, Read Error Skip, Format HDD, Verify HDD, Burn-in, Update Firmware, Compare Firmware, H/W Diagnostic, Load Default, CD+G, ISRC and Switch Link-Host.

On the above figure press **ESC** to return to Function 11. Then, press **ESC** for 2 seconds to enter Function 12 as the following figure shows.

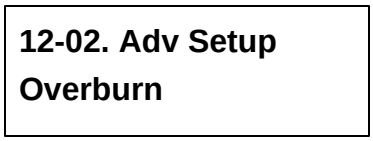
6.12.1 UnderRun Protect

On the above figure press **ENT**, and you will enter the following figure. UnderRun Protect lets you control On and Off of Buffer Under Run Protection such as Burn Proof, SafeBurn, JustLink, Seamless Link, etc.

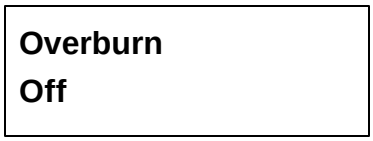
Press **ENT** to enter the following figure. The default is On. Press ▼ to select Off.

6.12.2 Overburn

On the above figure press **ESC** and ▼ to enter the following figure. Overburn lets you decide whether to copy beyond the limit of the CD or not.



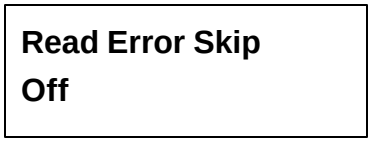
Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.



6.12.3 Read Error Skip

On the above figure press **ESC** and ▼ to enter the following figure.Read Error Skip is to neglect any error that occurs during copying. Under normal circumstances, when an error occurs during copying, a message will appear on LCD. Yet, you can use Read Error Skip to copy some defective DVDs.

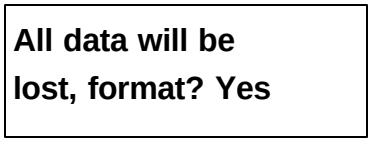
Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.



6.12.4 Format HDD

On the above figure press **ESC** and ▼ to enter the following figure. Format HDD is to partition the hard disk. But before formatting, all data on the hard disk will be deleted.

Press **ENT** to enter the next figure. Use ▲ ▼ to confirm Yes or No.



If ARS-2021D/2021DS doesn't connect with a hard disk, LCD will show the message as follows.

6.12.5 Verify HDD

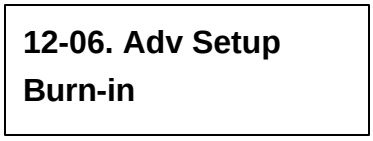
On the above figure press **ESC** to return to Function 12, and then select part 5 Verify HDD as the following figure shows. Verify HDD is to verify if the hard disk or any of its partitions can work well.

Press **ENT** to enter the next figure. Use ▲ ▼ to confirm Disk or Parti.

Press **ENT** to verify. After verification LCD will show the results as follows.

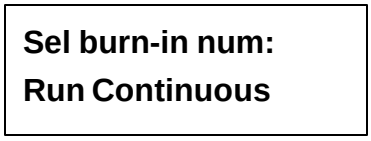
6.12.6 Burn-in

On the above figure press **ESC** and ▼ to enter the following figure. Burn-in is to simulate the copying progress many times. The time can be from 1 to 1000. After each cycle of simulation, the DVD on the DVD writer will eject automatically and recede for the next bout of simulation.

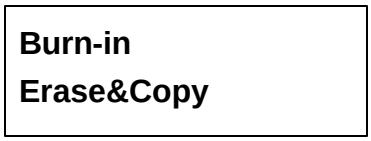


Press **ENT** to enter the next figure. Test is simply a simulation.

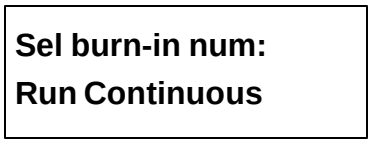
Press **ENT** and use ▲ ▼ to select the time of simulation such as 1, 2, 3...1000 or Run Continuous. The figure below shows Run Continuous.



Press **ESC**, **ENT**, ▼ to select Erase & Copy as the following figure shows. Erase & Copy is to erase and write repatedly. It is only for DVD rewriteable disk.



Press **ENT** and use ▲ ▼ to select the time of simulation such as 1, 2, 3...1000 or Run Continuous. The figure below shows Run Continuous.

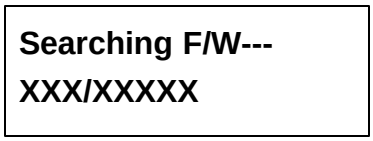


6.12.7 Update Firmware

On the above figure press **ESC** and ▼ to enter the following figure. Update Firmware is to update firmware to the latest version. But you should get the version first.

You can get the newest firmware version from ACARD by e-mail, or download it directly from the web site: **http://www.acard.com** Then, unzip the file "cdxxx.bin" and copy it into a blank DVD.

After placing the DVD on the DVD-ROM , press **ENT**. The system will begin searching the new firmware and show the message on LCD as follows after it finds the new firmware. Then press **ENT** to update.

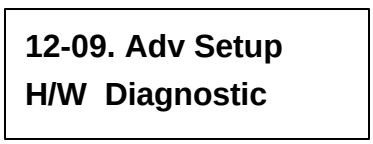


6.12.8 Compare Firmware

On the above figure press **ESC** and ▼ to enter the following figure.Compare Firmware is to compare the current firmware version and the newly downloaded version. It can prove if the downloaded version is the newest one.

6.12.9 H/W Diagnostic

Press **ESC** and ▼ to enter the next figure. H/W Diagnostic is to test the system.

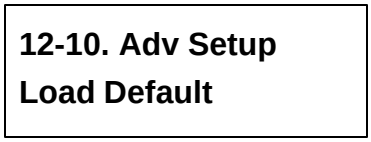


Press **ENT** to enter the next figure. Follow the instructions on LCD to do the button test. After that, the system will do the self-test of SDRAM, the hardware connection test and flash test. All test results will be shown on LCD. It is the easiest way to know if the system can work well.

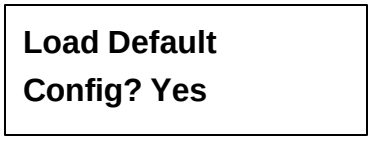
When the whole process finishes, LCD will show the message as follows.

6.12.10 Load Default

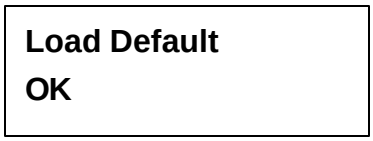
On the above figure press **ESC** and ▼ to enter the next figure. Load Default is to make all changed settings recover to defaults.



Press **ENT** to enter the next figure. Use ▲ ▼ to confirm Yes or No.

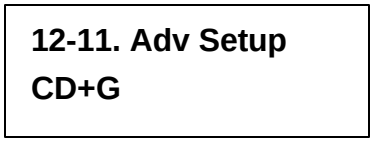


When default loading finishes, LCD will show the results as follows.



6.12.11 CD+G

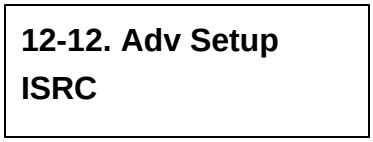
On the above figure press **ESC** and ▼ to enter the following figure. CD+G is a kind of special copying format. This function supports the special format.



Press **ENT** to enter the next figure. The default is Off. Press ▼ to select On.

6.12.12 ISRC

On the above figure press **ESC** and ▼ to enter the following figure. ISRC is a kind of special copying format. This function supports the special format.



Press **ENT** to enter the next figure. The default is Off. Press ▼ to select On.

6.12.13 Switch Link-Host

On the above figure press **ESC** and ▼ to enter the next figure. Switch Link-Host lets you switch to the link-host mode if your 2021DS has connected with a PC.

Press **ENT** to enter the next figure.

Chapter 7 Troubleshooting

7.1 About LCD

After powering on if there is no LCD, please check if the connection of power cord is frim and the environment of power outlet is normal.

7.2 About Error Messages

During Copy, Test, Compare and Verify, etc. if you press **ESC** to abort, an error message will appear on LCD. Abortion may cause ARS-2021D/2021DS to hang up, therefore you have to power on again.

If reading fails, an error message will appear on LCD. Please get a new source DVD to try again.

If ARS-2021D/2021DS hasn't detected any device after powering on, an error message will appear on LCD.

7.3 About DVD-ROM/DVD Writer

If a DVD-ROM or DVD writer cannot read, please confirm the format of the source DVD and check if it is damaged.

Use any DVD writer to read the source DVD. If it works, the DVD-ROM is probably defective or not compatible with the source DVD.

Use a fine DVD writer as the data reader, and set the "Read Speed" at minimum.

7.4 About Buttons

If you press any one of the four buttons on the panel, but there is no response, it is perhaps that the button cannot function well. Please inspect the jumper setting.

7.5 About DVD Writer Not Readable

After copying if the DVD writer is unreadable, please use Compare to examine, or get another DVD-ROM to test.

7.6 About High Failure Rate

If the failure rate of copying is high, please do the following things to improve.

- Lower the speed of DVD writer
- Inspect if the blank disk's quality is bad.
- Update the firmware.
- Inspect the DVD writer's maximum writing speed. If the speed is over 24X, copy the data to a hard disk first, and then transmit to DVD.

7.7 About Firmware Update

If you cannot update the firmware, please inspect the BIOS program. Perhaps you have downloaded a wrong program, or let a zipped file be written into DVD. The zipped file should be unzipped first.

Failure in firmware update may cause ARS-2021D/2021DS to fail in booting. Under the circumstance, please return the control board to ACARD for repair.

7.8 About Function 12 and Cancellation

If you want to execute function 12 Advanced Setup, you can press **ESC** for 2 seconds. And during operation if you want to cancel a function like Copy, Test, Verify and so on, you can press **ESC** for 2 seconds, too.

Appendix 1 List of Functions

1 Copy
2 Test
3 Test & Copy
4 Verify
5 Compare
6 Prescan
7 Disc Info
8 Select Source
9 Image (It works only when a hard disk is connected)
  9.1 Load
  9.2 Delete Image
  9.3 Image Info
  9.4 Compare Image
  9.5 Select Partition (Each partition is 5GB)
  9.6 Select Src Drive
10 Edit Track (for CD only)
  10.1 CD to CD
  10.2 CD to HDD (It works only when a hard disk is connected)
  10.3 Play Audio Track
  10.4 Close Session
11 Setup
  11.1 Language (English)
  11.2 Burn Speed (Default is Maximum)
  11.3 Read Speed (Default is Maximum)
  11.4 Auto Start Drive (Default is Off)
  11.5 Startup Menu (Default is Copy)
  11.6 Auto Verify (Default is Off)
  11.7 Auto Compare (Default is Off)
  11.8 Auto Prescan (Default is Off)
  11.9 Eject Disc (Default is Eject Good Only)

11.10 Burn On The Fly (Default is On)
11.11 Burn Mode (Default is DAO)
11.12 Button Sound (Default is On)
11.13 Device Info
11.14 System Info
11.15 Quick Erase
11.16 Quick Erase
12 Adv Setup
12.1 UnderRun Protect (Default is On)
12.2 Overburn (Default is Off)
12.3 Read Error Skip (Default is Off)
12.4 Format HDD
12.5 Verify HDD
12.6 Burn-in
12.7 Update Firmware
12.8 Compare Firmware
12.9 H/W Diagnostic
12.10 Load Default
12.11 CD+G (Default is Off)
12.12 ISRC (Default is Off)
12.13 Switch Link-Host

Appendix 2 LCD Messages

1. Normal Conditions:

Initialize SDRAM.....Initialize the memory of the system.
Detect Drives.....Detect what drives are connected with the system.
User Abort!.....Cancel the job during operation.
Analyzing.....Analyze the source disc.
Source Drive Not Ready.....Source drive is not ready to read.
Target Drive Not Ready.....Target drive is not ready to write.
Source Disc Not Ready..... Source disc is not ready to be read.
Target Disc Not Ready..... Target disc is not ready to be written into.
Erasing disc.....The system is erasing the data on the disc.
Fail to get Drive Info!..... The drive information cannot be obtained.
Fail to get Src Disc Info!..... The information of source disc cannot be obtained.
Save new config Fail!..... The new setting of configuration cannot be saved.
Load Default Config?.....Do you want to load the default settings?
Src&Tgt can't in the same channel.....During comparison the source and target discs cannot be in the same channel.
Preparing..... The system is preparing to record.
Check Target Please Wait .....The system is checking the target device.
Audio Disc!!! Can't compare!..... The system cannot compare the audio discs.
Identical..... The comparison results are the same.
Read disc error .....During comparison the disc cannot be read.
Cannot read TOC..... The system cannot read the contents of disc.
TOC not match..... The comparison results are not the same.
Source Disc Empty!!!..... The source disc doesn't contain any data.
Target overflow..... The target disc hasn't enough capacity to store new data.
Target Disc Not Empty!!!..... The target disc still has data.

Press a Key to Eject Good Disc... Press any ket to eject the good disc after copying
Press a Key to Eject Fail Disc.....Press any key to eject the failed disc after copying.
DVD-RW does not Support the Func..... DVD-RW doesn't support this function.
Hold ESC to exit..... Press **ESC** for a second to terminate the test.
All data will be lost, erase?.....All data on the disc will be lost. Confirm the erasing of data.
Erase Finished..... The erasing of data comes to an end.
No Eraseable Disc in DVD-RW!!.....The disc on the DVD-RW device is not rewritable.

2. Connecting with a HDD:

HDD not Format!.....The hard disk hasn't been formatted yet.
Format HDD?..... Ask if you want to format the hard disk.
All data will be lost, format?.....All data on the hard disk will be lost. Confirm the formatting of hard disk.
Format HDD OK! .....The Formatting of hard disk has been completed.
Image load OK..... The image is successfully loaded from DVD to the hard disk.
Image load Fail.....The image isn't successfully loaded from DVD to the hard disk.
HDD too small to handle image!.....The hard disk hasn't enough capacity to store the data image (at least 5Gbytes).
No Valid HDD!..... The system cannot find a hard disk.
HDD too small ..... The capacity of hard disk is too small.
No Image in Partition xx.....There is no data image in partition xx.
Image Exists Overwrite?.....There is a data image in the current partition. Confirm the overwriting of data.
Delete Image in Partition xx?....Confirm the deleting of data image in partition xx.
Partition Damage.....The partition is damaged.
Verify Disk or Partition?..... Do you want to verify the hard disk or just a partition?

Verify Hard Disk OK!..... The hard disk is verified successfully.
Verify Hard Disk Fail!..... The hard disk is not verified successfully.
Verify Partition Header!..... Verify the partition header.
Select HD First!..... Select a formatted hard disk at first.

3. Audio Editing:

Lost selected Tracks?..... Abort the selected tracks and delete them.
End edit disc and burn?..... Finish the music disc editing and start to copy.
Continue edit next Disc?..... Ask if you want to continue the music disc editing.
Target Overflow Re-Select..... The disc capacity is not enough to store the selected tracks. Please select again.
Close all disc's session?...... Confirm the closing of disc sessions.
Can't edit HDD...... The hard disk cannot be edited as a source audio disc.
NO AUDIO track in this disc..... The source disc has no audio track.
Insert next disc...... Insert the next audio disc.
Sessions were closed already! ..... The disc sessions have already been closed.
Burn or Move to partition?..... Do you want to directly copy the data into disc or move them to the partition.
Tgt overflow, del last trk?...... The disc capacity is not enough to store the selected tracks. So, do you want to delete the last track?
Ins empty disc Continue?.. Do you want to insert a blank disc and continue copying?

4. Firmware Update:

Invalid firmware Disc..... The disc doesn't contain a valid firmware.
Updating F/W.....The system is updating the firmware.
Update F/W xxx to yyy?..... Do you want to update the firmware version from xxx to yyy?
Searching F/W ..... The system is searching for a valid firmware.

Check Sum Error!...... The udpated firmware has errors.
Source can't be Hard Disk!.....During comparison the source cannot be hard disk.
Last update F/W OK!..... The firmware is updated successfully.
Last update F/W Fail!..... The firmware is not updated successfully.
Flash ROM fail!...... Data cannot be written into Flash ROM.

Technical Support Form
Email: **support@acard.com**
http://www.acard.com

Model ARS-2021D/2021DS		**F/W Version**
Channel	Model	F/W Version
DVD-ROM		
DVD Writer		

Hard Disk Model/type		
Capacity		
Firmware version		

Others	

Problem Description